

experimenters interviewed does not see himself as the sole source of an effect.

A common approach to maintaining focus involves the introduction of novelty.

Sometimes I move my hands and it perhaps gets my mind ... it enhances the focus.... There are a number of special techniques that I use. Sometimes I try a mantra. I have to watch so that none of the things become too automated.

A similar trend was noted by the other informants, although the strategies employed differed according to the individual testing procedure.

#### Discussion

Much more research must be undertaken to understand completely the dynamics at play in the minds and bodies of successful PK experimenters. The preceding discussion only scratches the surface of a rich and multifarious research domain--the phenomenology of psi experimenters. The data, while preliminary in our understanding of successful psi researchers, do serve to illustrate the usefulness of ethnographic method in our study of psi phenomena. This method is useful alone or as an adjunct to laboratory investigations. For example, it provides a systematic means of exploring a vast wealth of qualitative data, data which are often cast aside due to their unruly nature (i.e., what am I going to do with all this stuff?). Additionally, it is a method flexible enough to allow our data to shape the direction of our research rather than our forcing them through a preconceived methodological filter. As such, the integrity of the phenomena under study, in this case the phenomenology of successful PK experimenters, is maintained.

Many scientists fail to understand the value of phenomenological inquiry in our studies of consciousness, of which psi is clearly a part. One need not abandon experimental methods in order to gain phenomenological detail. The approach outlined in this paper is complementary, not adversarial, to experimental studies. We only stand to gain by looking inward in a manner which is responsive to our transitory nature yet systematic enough to accommodate our need for rigor! As a Mexican curandero so clearly expressed to a researcher studying folk healing practices:

Many of these things you must experience, before you understand them. When you have experienced and understood them, you either will not need to ask questions, or your questions will be the kind that I can answer [Trotter and Chavira, Curandismo: Mexican American Folk Healing. Athens, GA: University of Georgia Press, p. 11].

#### THEORIES AND TESTS OF THEORIES

#### PSYCHOLOGY OF THE OTs: INTRODUCTION TO THE OBSERVATIONAL QUASI-MOTOR MODEL

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The observational theories (OTs) deal primarily with the "engineering" properties of combinations of components, such as random generators and psi sources. Psychology seems to have been discarded somewhere along the way. This paper brings psychology back into the mainstream of the OTs where it belongs. The Observational Quasi-Motor model outlined here fits snugly into the elastic framework of cognitive psychology.

In the fundamental psi circuit, a psi source is connected to a random generator via a feedback channel. The feedback channel carries information about the outputs of the random generator to the psi source. The "magical" influence of the psi source biases the remote random generator in such a way that the psi-source-active input is stimulated more frequently. In general, the feedback channel is no simple transmission line but is an information-processing system which may conveniently be represented by a computer program.

On its own, the psi source is a blind, insentient "machine" which acts to appease its primeval hunger for stimulation. The function of the feedback channel determines what effect the psi source has on the external world. If the psi source is likened to gunpowder, then the feedback channel is the gun which directs its effect onto a distant target.

Given a psi source, one may construct a feedback channel to accomplish some desired goal. For example, one might wish to reduce the temperatures of a group of fever patients in New York. A feedback channel could be constructed on the following lines.

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Temperature is measured automatically every few minutes. The current measurement is electrically compared with the previous one: if the temperature has dropped, a "fall" signal is formed; if it has risen or stayed the same, however, a "rise" indication is produced. These signals are transmitted over a telephone link to Paris. There they are decoded: on a "fall," a pulse is fed to the active input of the psi source, whereas a "rise" sends a pulse to the neutral input.

Some human beings apparently produce psi effects, but a human is no naked psi source. Rather, the brain of a psi subject contains such a device. Sensory input is subject to much processing before eventually reaching the psi source. In other words, there is an internal feedback channel in addition to the external one. It is the function of this internal channel that accounts for the intelligence of the psi effects exerted by human beings. The internal channel is, in effect, the user of the psi "gun." In particular, it is in the internal channel that explanation of the psychology of psi effects must be sought.

Cognitive psychology is characterized by its emphasis on the internal processes that mediate between stimulus and response. Conceptual models of parts of the human information-processing system are built and compared with experimental results. This approach treats the information-processing functions independently of their neurological substrate.

According to the Observational Quasi-Motor model, the part of the human information-processing system relevant to psi is that between the sensory inputs and the psi source. From the point of view of the central nervous system, the psi source is just another output organ, such as a hand. The processing involved in PK, then, is almost identical to that involved in quite ordinary perception/motor response. The latter has been subject to intensive examination, and much knowledge of the information processing involved has been accumulated. This can be applied directly to the psychological aspects of psi. The predictions obtained in this way are fairly general ones.

It is possible to go a step further, however, and look at perception/motor response and psi together in the same experiment. In this way it should ideally be feasible to predict the psi results of a particular subject from moment to moment under varied circumstances. The attempt is, in effect, to "bug" the output of the internal channel by tapping it off via a convenient existing output, such as the hand.

The effectiveness of this strategy is naturally dependent on how well the bugging can be carried out. Empirically, it seems that a great deal of control can be exerted over the "program" running in the internal channel just by asking the subject to do so. The subject is usually expected, for example, to be able to direct

his or her PK onto the machine requested rather than one in Australia. He can often even voluntarily choose for "high aim" or "low aim." It is reasonable, then, to make the attempt to use the subject's own "software" to produce a high-fidelity external copy of the signal reaching the psi source. One may, then, try to tap into the internal channel by exploring different instruction sets given to the subject. Physiological measures may likewise be employed. Success in this search should result in perception/motor responses which are monotonically related to PK hitting. PK success under any kind of experimental manipulation can then be accurately predicted from the mirroring changes in ongoing measurements of perception/motor response.

The Observational Quasi-Motor model forms the basis for an entire research program in the psychology of psi effects, one that is firmly based on theory. This is in marked contrast to the current largely empirical state of the art in parapsychology.

#### TESTING THE INTUITIVE DATA SORTING MODEL WITH PSEUDORANDOM NUMBER GENERATORS: A PROPOSED METHOD

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One premise of the Intuitive Data Sorting (IDS) model is that people can use some sort of informational mechanism to select the "right" time to respond in a random number generator (RNG) experiment (May et al., RIP 1985, pp. 119-120). The model postulates that in a successful psi experiment employing an RNG, the RNG is not perturbed by an energetic PK-like force but locally deviant subsequences are chosen or otherwise sorted out from naturally fluctuating random sequences.

A computer-based method was designed to test this premise using a pseudorandom number generator (PRNG), and the method was explored in an experiment with two selected subjects. The methodology was as follows: When the program was evoked, the computer initialized a PRNG, set up the screen for the feedback display, then waited for the subject to press a button. When the button was pressed, the program pseudorandomly chose one of nine sequence lengths, corresponding to bit streams of length 101, 201, 401, 701, 1001, 2001, 4001, 7001, or 10,001, as discussed in May et al.

Immediately after a random sequence length was chosen, a PRNG was initialized with the current value of the computer system